

Abstract Submitted
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Overview of Alcator C-Mod Research¹ EARL MARMAR, Massachusetts Institute of Technology, ALCATOR C-MOD TEAM — C-Mod research has emphasized lower hybrid current profile control, realtime ICRF matching, pedestal studies including large ELMs, SOL turbulence and transport including flow studies, hydrogenic retention in metals, wall conditioning, disruption prediction and mitigation, error fields and locked modes, exploration of lower density and collisionality regimes, and Alfvén eigenmodes. Particular attention is given to high priority R&D for ITER and joint experiments coordinated through the ITPA. LHCD experiments have been extended to H-Mode regimes, and in combination with ICRF, with good coupling across the edge plasmas. An important new tool for C-Mod is active density control with a divertor cryopump. Improved measurements across all plasma regimes are enabled by new/upgraded diagnostics: high resolution X-Ray crystal spectroscopy; hard X-Ray imaging; active CXRS; bolometry; increased wavenumber spatially localized phase contrast imaging; ultra high speed CCD cameras; IR imaging; swept frequency reflectometry; magnetic pick-ups; and high field side SOL scanning Mach probes.

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